



# The Combined Balancing Group of Energy and Development Company

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2018

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## Executive Summary

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- Presented herewith is a brief overview of ENERGY AND DEVELOPMENT COMPANY with a focus on its activity as a Coordinator of a Combined Balancing Group. Its balancing group, consisting of predominantly photovoltaic power plants, has a leading position in the Bulgarian energy sector.
- We would be glad to discuss in detail with interested parties the opportunities for co-operation with ENERGY AND DEVELOPMENT COMPANY and potentially joining our balancing group. An option for our potential clients is a combination of balancing services and O&M services.



## The Company at a Glance

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ENERGY AND DEVELOPMENT COMPANY has two main business lines:

- The Company is an **owner of a photovoltaic power plant** - PV "Dobrich" with an installed capacity of **14 MWp**;
  - The Company is licensed as a **Coordinator of a Combined Balancing Group** with total installed capacity of the participants of near **368 MW**
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- The Company is licensed by the Energy and Water Regulatory Commission for production of electricity and as a Coordinator of a Combined Balancing Group (**License No L-388-01/23.07.2012** amended with Decision No I1-L-388/29.10.2014).
  - The Company is registered with the Electricity System Operator as a Coordinator of a Combined Balancing Group with status **"Active"**.



# The Combined Balancing Group of Energy and Development Company

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- Following a testing period (starting from September 2013) the operations of the Combined Balancing Group were officially launched in April 2015.
- The participants in the group are located throughout the whole country.
- The group comprises of producers of various size, with installed capacity from **0.015 MW** to **21 MW**.
- The photovoltaic power plants have the predominant share among the participants in the group.

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Total number of participants: **173**  
Total installed capacity: **368 MW**

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Installed capacity by type:

- Photovoltaic PP: **331 MW**
- Wind PP: **16 MW**
- Hydro PP: **19.5 MW**
- Biomass PP: **1.5 MW**

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Coefficient of aggregation of unbalanced energy: **over 50%**



# Methodology for Distribution of the Total Unbalance between the Individual Members of the Balancing Group

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## Determination of the amounts due in the relations between CBGC and CBGM

The amounts due in the relations between CBGC and CBGM for the corresponding accounting period (monthly basis) is defined based on the  $BEES_{(d)}$   $BEED_{(d)}$  for all the settlement periods within the accounting period, after taking into account the agreed bonus for the CBGC, namely:

$$\text{Final amount for payment from CBGM, lv} = \sum_{t=1}^h (BEES_{(d)t} + BEED_{(d)t}) + CB$$

Where,

h is the number of settlement periods within the accounting period

$BEES_{(d)t}$  и  $BEED_{(d)t}$  are the BGN equivalent of the  $ES_{(d)}$  and  $ED_{(d)}$  for the corresponding settlement period.

CB is the coordinator bonus, agreed between the CBGC and the CBGM and is defined in a different attachment to the contract.

**The positive result for the CBGM is necessarily present in the monthly report from the CBGC and is calculated by the following formula:**

$$RCUE (\%) = \frac{\sum_{t=1}^h (BEES_{(i)t} + BEED_{(i)t}) - \sum_{t=1}^h (BEES_{(d)t} + BEED_{(d)t})}{\sum_{t=1}^h (BEES_{(i)t} + BEED_{(i)t})} \times 100$$

Where,

RCUE is the reduction of the costs for unbalanced energy for CBGM,

h is the number of settlement periods within the accounting period,

$BEES_{(i)t}$  и  $BEED_{(i)t}$  are the BGN equivalent for the  $ES_{(i)}$  and  $ED_{(i)}$  for the corresponding settlement period.



# General Principles for Distribution of Unbalance in the Balancing Group

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## **Responsibility of the coordinator**

The coordinator of the balancing group assumes the responsibility for balancing to the independent transmission operator for all the producers participating in its balancing group.

## **Relation to the Public Supplier**

With regard to the participation of producers in the balancing group according to Article 70 of the Electricity Trading Rules, the coordinator settles the relation that arise with the Public Supplier in accordance with Art. 73 of the Electricity Trading Rules.

## **Relation to the Independent Transmission Operator**

With regard to the participation of producers in the balancing group according to Article 70 of the Electricity Trading Rules, the coordinator settles the relation that arise with the Independent Transmission Operator in accordance Art. 72 of the Electricity Trading Rules.

## **Agreement for participation in the balancing group**

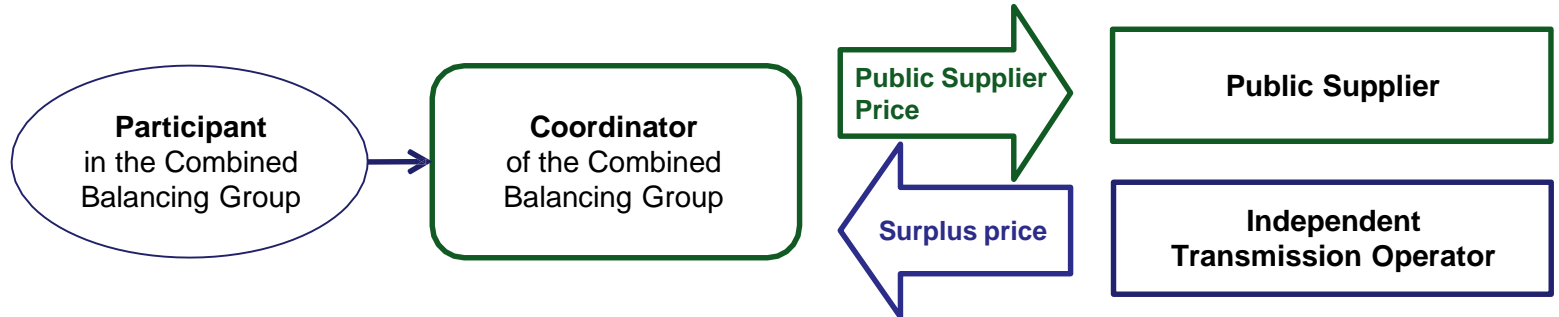
In order the coordinator to assume the responsibility for balancing, the coordinator and the producer have to execute an agreement for participation in the Combined Balancing Group as per Article 11, p. 9 of the Electricity Trading Rules.



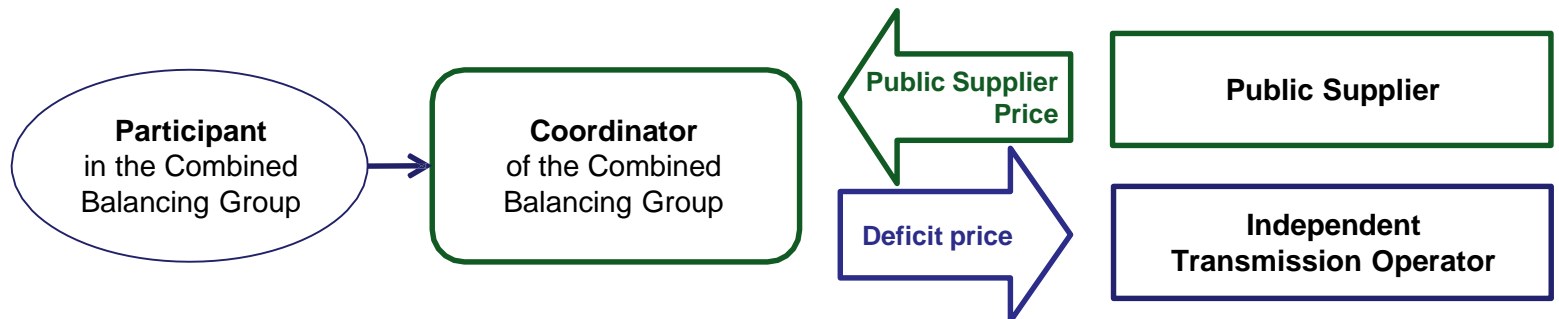
# Scheme of the General Principles in the Balancing Group

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**Schedule lower than the actual produced energy for the settlement period (energy surplus)**



**Schedule higher than actual produced energy for the settlement period (energy deficit)**

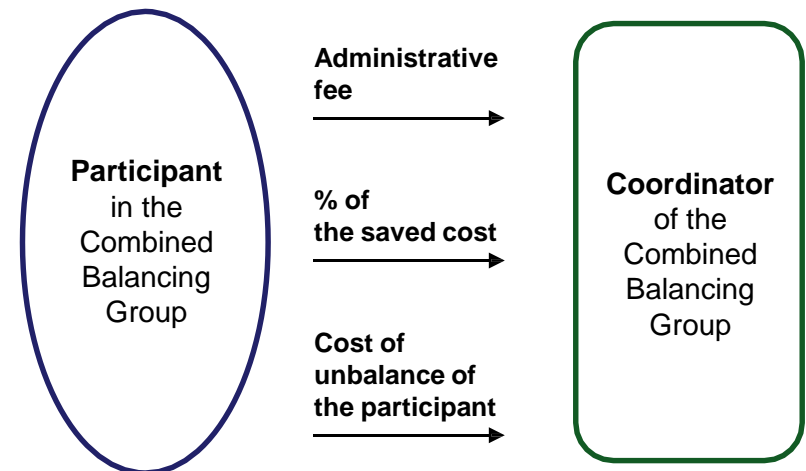


# Payment between the Coordinator and Participants in the Balancing Group

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The achieved unbalance reduction is distributed between the participants in the Combined balancing under the following principles:

- **Equality** between the participants in the balancing group;
- **Distribution of the group effect to all participants** in the balancing group, taking into account the individual contribution of each participants;
- **Transparency and accountability** by the coordinator to the participants;
- The unbalanced energy assigned to participants **may not exceed its individual unbalance value.**



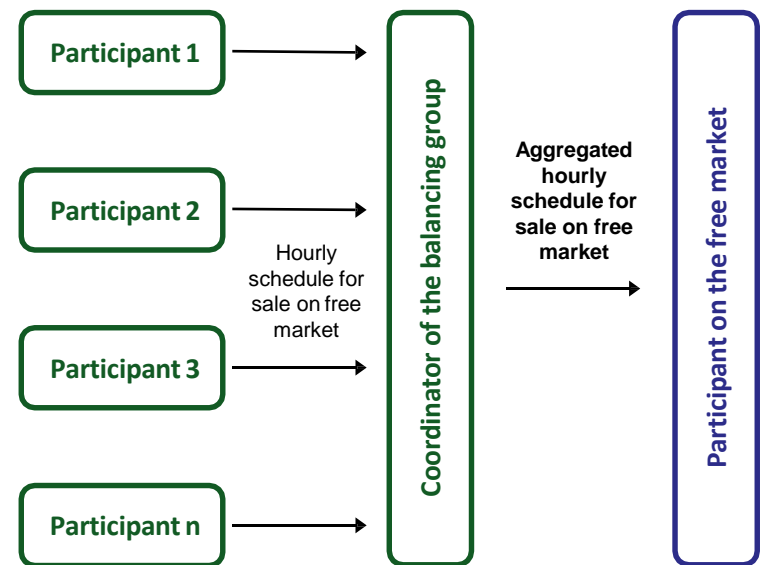


## Participation on the Free Market

The amendments of the Energy Act and the Energy from RES Act provide the opportunity for the RES producers to sell through the coordinator to the balancing group at freely negotiated prices the electricity quantities generated above the "net specific production".

ENERGY AND DEVELOPMENT COMPANY **conducts transactions on the free market for electricity produced above the "net specific production" at the best terms for the members** of its balancing group in accordance with the instructions given by the ESO and Article 31, Para 12 of the RES Act.

- Each member of the balancing group that has reached the "net specific production" (as defined by the EWRC Decision on the preferential price) is entitled to sell energy through the coordinator;
- The provision of schedules to a participant in the free market can be started at any time (settlement period), once the amount of "net specific production" has been reached.



## Contacts

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